

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A medical ~~mechanically formed vortex~~ ultrasound transducer having an axis and an energy emitting surface transverse to the axis, wherein an edge of the surface is axially offset to produce ~~capable of producing~~ at least one[[,]] substantially annular focal region(s) when said transducer is excited.

2. (Currently amended) The medical transducer of claim 1, where the transducer incorporates a solid piezoelectric material.

3. (Currently amended) The medical transducer of claim 1, where the transducer incorporates a composite piezoelectric material.

4. (Currently amended) The medical transducer of claim 1, where the transducer incorporates one or more matching layers.

5. (Currently amended) The medical transducer of claim 1, where the transducer incorporates a filler material in front of the transducer or backing material in back of the transducer.

6. (Currently amended) The medical transducer of claim 1, being formed of a single contiguous piezoelectric element.

7. (Currently amended) ~~[[A]]~~ The medical ~~mechanically formed~~ ultrasound transducer of claim 1, further comprising a plurality of piezoelectric elements suspended in a polymer and ~~having an irregular shape such that a vortex focal field is produced when the transducer is excited.~~

8. (Currently amended) The medical transducer of claim 1, wherein the transducer is a bowl shaped transducer. ~~A polymer for use in the creation of a heat set transducer shape having a liquid state when introduced into a diced piezoelectric ceramic, a semi-solid state during processing and a fixed solid state upon completion of a heat treatment step.~~

Claims 9-10 (Cancelled).

10. (Currently amended) A method of creating a vortex transducer comprising the steps of:

- (a) shaping a piezoelectric ceramic into a desired form, the form having an axis, and a front end and a back end normal to the axis;
- (b) dicing said front end create a plurality of elements, said elements being attached to said back end and separated by dicing channels;
- (c) filling said dicing channels with an epoxy material and allowing said epoxy to gel;
- (d) creating a transducer form by removing said back end such that said elements are separated from one another;
- (e) pressing said transducer form into a mold and heating said transducer form such that the epoxy is heated above the B-stage and allowing the resin to cross link and cool in a set shape;
- (f) treating at least one surface of the transducer form with a conductive material such that all elements are in contact with said conductive material; and
- (g) creating an axial offset in an edge of the transducer so the transducer will produce a substantially annular focal region when excited. ~~making a shape irregularity in the transducer form such that the transducer will produce a vortex effect.~~

12. (Original) The method of claim 11, wherein step (g) may be performed before performing any one of steps (a)-(f).